REMARKS

Claims 1-31 are pending is the instant application. No claims have been added by this Amendment. No claims have been cancelled by this Amendment. Therefore upon entry of this present Amendment claims 1-31 are still pending. Claims 1-31 have been rejected.

Reconsideration of this application, in view of the foregoing amendments and the following remarks, is respectfully requested.

Claim Rejections - 35 USC § 103

Claims 1-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Awater et al. (U.S.Pat-7046649) in view of Fang (U.S.Pub-20020183032). Applicants traverse this rejection.

In order to sustain a rejection under 35 U.S.C. §103(a) there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness. "Rejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness. To establish a *prima facie* case of obviousness based on a combination of elements disclosed in the prior art, the Examiner must articulate the basis on which it concludes that it would have been obvious to make the claimed invention. In practice, this requires that the Examiner "explain the reasons one of ordinary skill in the art would have been motivated to select the references and to combine them to render the claimed invention obvious. This entails consideration of both the "scope and content of the prior art" and "level of ordinary skill in the pertinent art" aspects of the Graham test. *IN RE LEONARD R. KAHN*, 441 F.3d 977 (Fed. Cir. 2006). Inferences and creative steps that a person of ordinary skill in the art would employ can be used. The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield

predictable results. *KSR INT'L CO. v. TELEFLEX INC*. 127 S. Ct. 1727 (2007). The Examiner has failed to show that the combination of the cited references would yield predictable results.

In the Office Action dated 06/07/2007, the Examiner has opined regarding claim 1 that:

> Awater fails to specifically disclose an antenna switching function communicatively coupled to the first and second antennas capable of providing diversity capabilities; and an arbitration function, communicatively coupled to the antenna switching function and the first and second wireless telecommunications functions, and adapted to directly control the first and second wireless telecommunications functions and access to the first and second antennas by the first and second wireless telecommunications functions according to a defined prioritization scheme.

In the Office Action dated 01/17/2007, the Examiner has cited fig. 1, and col.6, line 58 to col. 7, line 5 as teaching "an antenna switching function communicatively coupled to the first and second antennas capable of providing diversity capabilities."

In the present Office Action, the Examiner is now citing figs. 1-2, col. 3, line 10 to col. 4, line 60, as teaching "an antenna switching function communicatively coupled to the first and second antennas capable of providing diversity capabilities."

The Examiner also writes:

Awater fails to specifically disclose an arbitration function, communicatively coupled to the antenna switching function and the first and second wireless telecommunications functions, and adapted to directly control the first and second wireless telecommunications functions and access to the first and second antennas by the first and second wireless telecommunications functions according to a defined prioritization scheme. However Fang teaches an arbitration function, communicatively coupled to the antenna switching function and the first and second wireless telecommunications functions (fig.5-6, paragraph 0027-0028), and adapted to directly control the first and second wireless telecommunications functions and access to the first and second antennas by the first and second wireless telecommunications functions according to a defined prioritization scheme (fig.5-6, paragraph 0027-0028). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to apply the teaching of Fang to Awater to provide a method for selecting one of the two antennas whose receiving intensity level for the signals is higher as the receiving antenna.

The Examiner cites "IEEE 802.11 (transceiver) for a first antenna, Bluetooth (transceiver) for the second antenna, and interoperability device for the switching function. However, in col. 7 of Awater:

> Thus in the switching mode the interoperability device operates merely to deactivate, or switch off, one of the two transceivers within the dual mode transceiver. This operation is transparent to the functional elements of the respective transceivers, and also to the other processing functionality in the device itself. When the interoperability device is switched

> to "IEEE 802.11" mode the transceiver **100** behaves as an IEEE 802.11 transceiver. When the interoperability device is switched to "Bluetooth" mode the transceiver **100** behaves as an Bluetooth transceiver.
>
> In the switching mode, turning off one transceiver when the other is transmitting means that the one transceiver cannot receive or transmit when the other is transmitting…(col.7, line 15-27)

> In the multiplexing mode of operation the IEEE 802.11 transmitter is switched off when the Bluetooth transmitter is receiving data and the Bluetooth transmitter is switched off when the IEEE 802.11 device is receiving data. In this way one radio system is never transmitting when the other is receiving, and vice versa. (col. 7, line 46-51).

In Figures 1 of Awater, the interoperability device 106 is coupled to the IEEE 802.11 MAC and the Bluetooth Baseband Controller, there is no switching function that is coupled to the output of the IEEE 802.11 PHY and the Bluetooth PHY and the two antennas.

In Figure 1 of the instant application, (104) 802.11 transceiver, *if you will*, is connected to the antenna switching circuit (116), and the Bluetooth function (106) transceiver*, if you will,* is also connected to the antenna switching logic (116). The first (112) and second (114) antenna are connected to the antenna switching circuit, not the transceiver as is shown in Awater's Fig. 1. In some embodiments, the antenna switching circuit is operable to allow the 802.11 transceiver to be directly connected to either antenna (112) or antenna (114), and the Bluetooth transceiver is connected to the other antenna. The reason for this is to allow for switched diversity which is a part of the 802.11 standard. Awater's Fig. 1 does not allow for switched diversity for the 802.11 transceiver, since that transceiver is always fixed to a single antenna.

> See claim 2. "The device of claim 1, wherein either or both of the first or second wireless telecommunications functions may require simultaneous access to both the first and second antennas."

Additional, *inter alia*, there is a difference in how the interoperability device of Awater (106) and the arbitration function (118) of the instant application. The difference is that arbitration function uses a probabilistic approach to decide on which device is allowed to transmit. Embodiments of the instant application does NOT try and schedule the 802.11 packets within the blank spaces of HV1 voice packets.

Applicants stated in the previous response that the antenna switch function of the instant application allows the two ***transceivers*** to select either of 2 or more antennas. Awater does not teach this restriction; in fact, the transceivers of Awater are statically fixed to an antenna (emphasis added).

> The Examiner cites Fang as teaching an arbitration function, communicatively coupled to the antenna switching function and the first and second wireless telecommunications functions (fig.5-6, paragraph 0027-0028), and adapted to directly control the first and second wireless telecommunications functions and access to the first and second antennas by the first and second wireless telecommunications functions according to a defined prioritization scheme (fig.5-6, paragraph 0027-0028).

Fang teaches switching between MAIN and AUX antennas, selecting one of the two antenna based on a comparison process based on the higher intensity level of signals received by the antennas. The claims of the instant application grants access based using arbitration and a prioritization scheme which is different than a comparison.

Applicants have amended the claims to further point out and distinctly claims the subject matter the inventors regard as their invention. The arbitration function is provided on a packet-by-packet basis and the prioritization scheme is comprised of a plurality of assumptions and priorities based on an end-use application. Support may be found in paragraph [0017]. Additionally, the plurality of antennas are capable of operating in a dual-antenna mode for providing diversity capabilities. Support may be found in paragraph [0023].

In Figure 1 of the instant application, (104) 802.11 ***transceiver***, *if you will*, is connected to the antenna switching circuit (116), and the Bluetooth function (106) ***transceiver***, *if you will,* is also connected to the antenna switching logic (116). The first (112) and second (114) antenna are connected to the antenna switching circuit, not the transceiver as is shown in Awater's Fig. 1. In some embodiments, the antenna switching circuit is operable to allow the 802.11 transceiver to be directly connected to either antenna (112) or antenna (114), and the Bluetooth transceiver is connected to the other antenna. The reason for this is to allow for dual-antenna mode for diversity which is a part of the 802.11 standard. Awater alone or in combination with Fang does not allow for switched diversity for the 802.11 transceiver (emphasis added).

> See claim 2. "The device of claim 1, wherein either or both of the first or second wireless telecommunications functions may require simultaneous ***(transmission and reception)*** access to both the first and second antennas" (emphasis added).

Furthermore, Fang does not provide for any arbitration function on a packet-by-packet basis using a probabilistic approach but only a comparison approach to swich to the antenna provided a better signal.

Thus, Awater alone or in combination with Fang fails to teach an arbitration function, communicatively coupled to the antenna switching function and the first and second wireless telecommunications functions, and adapted to directly control the first

and second wireless telecommunications functions and access to the first and second antennas by the first and second wireless telecommunications functions according to a defined prioritization scheme. Claims 2-13 are dependent, directly or indirectly, upon claim 1 and thus also have this limitation

The same argument may be made for claim 14 and the claims depending upon it.

Applicant believe this application and the claims herein to be in a condition for allowance and respectfully requests a Notice of Allowance or timely Advisory Action. Please charge any additional fees, or credit overpayment to Deposit Account No. 20-0668. Should the Examiner have further inquiry concerning these matters, please contact the below named attorney for Applicants.

Respectfully submitted:

/Steven A. Shaw/

Steven A. Shaw
Reg. No.: 39,368

Customer No.: 23494
TEXAS INSTRUMENTS INCORPORATED
P.O. Box 655474, M.S. 3999
Dallas, TX 75265
Telephone: (972) 917-5137
Facsimile: (972) 917-4418
email: steven-shaw@ti.com